

## WEST Search History

DATE: Monday, June 24, 2002

Set Name Query  
side by side

Hit Count Set Name  
result set

*DB USPT.PGPB: PLUR YES: OP ADJ*

L5	L4 and ammoni\$	19	L5
L4	L2 and gas\$	29	L4
L3	L2 and (ammoni\$ near5 gas\$)	0	L3
L2	L1 and (univers\$ near3 link\$)	95	L2
L1	(rna or dna or ribonucl\$ or deoxyribonucl\$ or oligonucl\$) near5 synth\$	33743	L1

END OF SEARCH HISTORY

s (dna or rna or oligonucl?) (3n) synth?  
L1 390977 (DNA OR RNA OF OLIGONUCL?) (3N) SYNTH?

=> s l1 and (univers? link?)  
L2 15 L1 AND (UNIVERS? LINK?)

=> s l2 and (cleav?)  
L3 15 L2 AND (CLEAV?)

=> rem dup l3

DUP IS NOT VALID HERE

The DELETE command is used to remove various items stored by the system.

To delete a saved query, saved answer set, saved L-number list, SDI request, batch request, mailing list, or user-defined cluster, format, or search field, enter the name. The name may include ? for left, right, or simultaneous left and right truncation.

Examples:

DELETE BIO?/Q	- delete query names starting with BIO
DELETE QDFUG/A	- delete answer set names ending with DRUG
DELETE ELEC?/L	- delete L-number lists containing ELEC
DELETE ANTICOAG/S	- delete SDI request
DELETE ENZYME/B	- delete batch request
DELETE .MYCLUSTER	- delete user-defined cluster
DELETE .MYFORMAT	- delete user-defined display format
DELETE .MYFIELD	- delete user-defined search field
DELETE NAMELIST MYLIST	- delete mailing list

To delete an ordered document or an offline print, enter its number.

Examples:

DELETE P123001C	- delete print request
DELETE D134002C	- delete document order request

To delete an individual L-number or range of L-numbers, enter the L-number or L-number range. You may also enter DELETE LAST followed by a number, n, to delete the last n L-numbers. RENUMBER or NOFENUMBER may also be explicitly specified to override the value of SET RENUMBER.

Examples:

DELETE L21	- delete a single L-number
DELETE L3-L6	- delete a range of L-numbers
DELETE LAST 4	- delete the last 4 L-numbers
DELETE L33	- delete L33 and any higher L-number
DELETE L55	- delete L55 and any lower L-number
DELETE L2-L6 RENUMBER	- delete a range of L-numbers and renumber remaining L-numbers
DELETE RENUMBER	- renumber L-numbers after deletion of intermediate L-numbers

Entire sets of saved items, SDI requests, batch requests, user-defined items, or E numbers can be deleted.

DELETE SAVED/Q - delete all saved queries  
 DELETE SAVED/A - delete all saved answer sets  
 DELETE SAVED/L - delete all saved L-number lists  
 DELETE SAVED - delete all saved queries, answer sets,  
 and L-number lists  
 DELETE SAVED/S - delete all SDI requests  
 DELETE SAVED/B - delete all batch requests  
 DELETE CLUSTER - delete all user-defined clusters  
 DELETE FORMAT - delete all user-defined display formats  
 DELETE FIELD - delete all user-defined search fields  
 DELETE SELECT - delete all E-numbers  
 DELETE HISTORY - delete all L-numbers and restart the  
 session at L1

To delete an entire multifile SDI request, enter DELETE and  
 the name of the request. To delete a component from the  
 multifile SDI, enter DELETE and the name of the component.

=> dup rem l3  
 PROCESSING COMPLETED FOR L3  
 L4 5 DUP REM L3 (10 DUPLICATES REMOVED)

=> d 14 1-5 ibib abs

L4 ANSWER 1 OF 5 CA COPYRIGHT 2002 ACS DUPLICATE 1  
 ACCESSION NUMBER: 135:369351 CA  
 TITLE: **Cleavage of universal**  
**linkers** from an **oligonucleotide** for  
 solid phase **synthesis** with gaseous  
 nucleophilic amino compound  
 INVENTOR(S): Pires, Richard M.; Gekeyehu, Gulilat  
 PATENT ASSIGNEE(S): Invitrogen Corporation, USA  
 SOURCE: PCT Int. Appl., 24 pp.  
 CODEN: PIKXDE  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002038728	A2	20020516	WO 2001-US43013	20011108
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BY, BZ, CA, CH, CN, CO, CF, CU, CZ, DE, DK, DM, DO, EC, EE, ES, FI, GB, GD, GE, GH, GM, HF, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, PO, PU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, VE, VN, YU, ZA, ZW, AM, AZ, BY, EG, ES, MD, RU, TJ, TM BW: GH, GM, KE, LS, MW, MT, SD, SL, SS, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IL, LU, MC, NL, PT, SE, TR, BF, BJ, BF, CI, CF, CM, CA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPL. INFO.: P 2000-245713P P 20001109

AB The invention relates to a method for **cleaving** a linker, which  
 attaches an oligonucleotide to a solid phase, from an oligonucleotide to  
 give free oligonucleotide comprising contacting an oligonucleotide-linker-  
 solid phase conjugate with an effective amt. of a gaseous nucleophilic  
 amino compd. under conditions that result in the removal of the linker,  
 thereby yielding the free oligonucleotide. Specifically, the invention  
 relates to a method for **cleavage** of a linker from an  
 oligonucleotide, comprising contacting a conjugate comprising an

compn. under conditions that result in the **cleavage** of an ester linkage between the first constituent of the oligonucleotide (usually the 3'-OH of the 3' terminal nucleotide) and the phosphate of the linker, resulting in the **cleavage** of the oligonucleotide from the linker. In a most preferred embodiment, the oligonucleotide, linker, solid support conjugate will be reacted with hydrated ammonia vapors at about 45.degree. for about 120 min.

L4 ANSWER 2 OF 5 SCISEARCH COPYRIGHT 2002 ISI (R)

ACCESSION NUMBER: 2001:239552 SCISEARCH

THE GENUINE ARTICLE: 498VF

TITLE: Linker phosphoramidite reagents for

**oligonucleotide synthesis** on underivatized solid-phase supports

AUTHOR: Pon R T (Reprint); Yu S Y

CORPORATE SOURCE: Univ Calgary, Dept Biochem & Mol Biol, Calgary, AB T2N 4N1, Canada (Reprint)

COUNTRY OF AUTHOR: Canada

SOURCE: TETRAHEDRON LETTERS, (17 DEC 2001) Vol. 42, No. 51, pp. 8943-8946.

Publisher: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND.

ISSN: 0040-4039.

DOCUMENT TYPE: Article; Journal

LANGUAGE: English

REFERENCE COUNT: 29

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

AB Linker phosphoramidite reagents containing a protected nucleoside with a **cleavable** 3'-ester linkage to either succinic acid, diglycolic acid, or hydroquinone-O,O'-diacetic acid (Q-Linker) allow the 3'-terminal nucleoside of an oligonucleotide sequence to be attached to underivatized 'Universal' amino or hydroxyl supports. After solid-phase **oligonucleotide synthesis**, treatment with NH<sub>4</sub>OH **cleaves** the 3'-ester link to the support and produces oligonucleotides with only 3'-OH ends. No changes to existing phosphoramidite synthesis cycles, **cleavage**, or deprotection methods are required. (C) 2001 Published by Elsevier Science Ltd.

L4 ANSWER 3 OF 5 CA COPYRIGHT 2002 ACS

DUPLICATE 2

ACCESSION NUMBER: 132:50213 CA

TITLE: Universal allyl linker for solid-phase nucleic acid synthesis

INVENTOR(S): Zhang, Xiaohu; Jones, Roger A.

PATENT ASSIGNEE(S): Rutgers the State University of New Jersey, USA

SOURCE: U.S., 10 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACQ. NUM. COUNT: .

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6,051,259	A	19941121	US 1997-812,119	19971316
PRIORITY APPLN. INFO.:			US 1996-16948P	P 19960506

OTHER SOURCE(S): MARPAT 132:50213

AB A **universal linker** for solid-phase nucleic acid synthesis that is **cleaved** under conditions orthogonal to those used during the synthesis and deprotection of nucleic acids such as dsDNA or RNA fragments is disclosed. The invention includes compds. of the

more preferably from 1 to about 100 or greater; R2 = alkyl (C1-20) or greater; X = 4,4'-dimethoxytrityl.

L4 ANSWER 4 OF 5 BIOSIS COPYRIGHT 2001 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3  
ACCESSION NUMBER: 1999:402703 BIOSIS  
DOCUMENT NUMBER: PFEV199900402703  
TITLE: A phosphate bound **universal linker** for

**DNA synthesis.**  
AUTHOR(S): Lyttle, Matthew H. (1); Dick, Daren J.; Hudson, Derek;  
Cook, Ronald M.  
CORPORATE SOURCE: (1) Biossearch Technologies, Inc., 81 Digital Drive, Novato,  
CA, 94949 USA  
SOURCE: Nucleosides & Nucleotides, (Aug., 1999) Vol. 18, No. 8, pp.  
1899-1924.  
ISSN: 0732-8311.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AB A uridine-based linker immobilized onto polystyrene beads at the 5' terminus via a phosphodiester group and then used as a universal **DNA synthesis** support gives post **synthesis DNA cleavage** in 8 hrs or less without alkali metal salts. DNA produced with the new support was analyzed by HPLC, MALDI mass spectroscopy and PAGE. Each analysis showed DNA of equivalent quality to that produced with standard CPG supports, without contaminating materials resulting from linker or support backbone decomposition.

L4 ANSWER 5 OF 5 BIOSIS COPYRIGHT 2001 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4  
ACCESSION NUMBER: 1996:423174 BIOSIS  
DOCUMENT NUMBER: PFEV199699154230  
TITLE: A new **universal linker** for solid phase

**DNA synthesis.**  
AUTHOR(S): Lyttle, Matthew H. (1); Hudson, Derek; Cook, Ronald M.  
CORPORATE SOURCE: (1) Biossearch Technologies Inc., 40 Mark Drive, San Rafael,  
CA 94903 USA  
SOURCE: Nucleic Acids Research, (1996) Vol. 24, No. 14, pp.  
2743-2748.  
ISSN: 0305-1048.

DOCUMENT TYPE: Article  
LANGUAGE: English

AB A method is described as an alternative to the use of nucleoside pre functionalized supports for **DNA synthesis**. The procedure should allow the generation of 3'-OH terminal moieties of any natural or modified DNA fragment using a single derivatized solid support material. The method utilizes 1-O-(4,4'-dimethoxytrityl)-2O-succinoyl-3-N-allyloxycarbonylpropane immobilized on amino-propyl CPG followed by subsequent coupling of unit phosphoramidites. Work up is accomplished by removal of the 3-N-allyloxycarbonyl group (Pd(0) at 50 degree C for 15 min followed by **cleavage** under very mild conditions (aqueous TEAA NH4+ buffer pH 7, room temperature) to release the desired product. The mechanism is believed to involve nucleophilic attack of the linker derived amino group on the 3 phosphate triester, followed by elimination of the desired product. **DNA synthesis** with the new support and with classical nucleotide synthesis supports have been performed, and the products shown to be identical. Further proof of product integrity was given by MALDI mass spectral studies and the efficacy of DNA primers made with the new support in PCR amplification.

end his

FILE 'BIOSIS, MEDLINE, SCISEARCH, CA, CAPLUS' ENTERED AT 09:30:30 ON 24  
JUN 2002

L1 390977 3 (DNA OR RNA OF OLIGONUCL?) (3N) SYNTH?  
L2 15 3 L1 AND (UNIVERS? LINK?)  
L3 15 3 L2 AND (CLEAV?)  
L4 5 DUP FEM L3 (10 DUPLICATES REMOVED)

=> s 14 and (univers? (3n) link?)  
L5 38 L1 AND (UNIVERS? (3N) LINK?)

=> dup 15 rem  
PROCESSING COMPLETED FOR L5  
L6 14 DUP FEM L5 (24 DUPLICATES REMOVED)

=> s 16 and cleav?  
L7 9 L6 AND CLEAV?

=> s 17 and gas?  
L8 1 L7 AND GAS?

=> d 13 ti

L8 ANSWER 1 OF 1 CA COPYRIGHT 2002 ACS  
T1 **Cleavage of universal linkers** from an  
**oligonucleotide** for solid phase **synthesis** with  
**gaseous** nucleophilic amino compound

=> d 17 1-9 bib abs

L7 ANSWER 1 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
ACCESSION NUMBER: 1999:402703 BIOSIS  
DOCUMENT NUMBER: PFEV199900402703  
TITLE: A phosphate bound **universal linker** for  
**DNA synthesis**.  
AUTHOR(S): Lyttle, Matthew H. (1); Dick, Daren J.; Hudson, Derek;  
Cook, Ronald M.  
CORPORATE SOURCE: (1) Bioscience Technologies, Inc., 81 Digital Drive, Novato,  
CA, 94949 USA  
SOURCE: Nucleosides & Nucleotides, (Aug., 1999) Vol. 18, No. 8, pp.  
1809-1814.  
ISSN: 0732-8311.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AB A uridine-based linker immobilized onto polystyrene beads at the 5'  
terminus via a phosphodiester group and then used as a universal  
**DNA synthesis** support gives post **synthesis**  
**DNA cleavage** in 4 hrs or less without alkali metal  
salts. DNA produced with the new support was analyzed by HPLC, MALDI mass  
spectrometry and PAGE. Thin analysis showed DNA of equivalent quality to  
that produced with standard CPG supports, without contaminating materials  
resulting from linker or support backbone decomposition.

L7 ANSWER 2 OF 9 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
ACCESSION NUMBER: 1997:504918 BIOSIS  
DOCUMENT NUMBER: PFEV199700504918  
TITLE: **RNA synthesis** using a **universal**  
**, base-stable allyl linker**.

1997:504918 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

SOURCE: 00055 USA  
Nucleic Acids Research, (1997) Vol. 25, No. 20, pp.  
3440-3443.  
ISSN: 0305-1048.

DOCUMENT TYPE: Article  
LANGUAGE: English

AB The application of a **universal** allyl linker, 9-O-(4,4'-dimethoxytrityl)-10-undecenoic acid, to the solid phase **synthesis** of RNA molecules is described. Use of this linker simplifies significantly the isolation and purification steps in **RNA synthesis**. The **linker** is **universal** in that it does not contain a nucleoside. The 3' terminal nucleoside is instead attached to the support in the first coupling step. The resultant RNA fragment is then obtained as the 3-phosphate. The linker is base-stable, and thus all reagents used during deprotection can simply be washed away, leaving the RNA attached. Further, tritylated short fragments resulting from chain **cleavage** for any reason are also washed away before separation from the support. This linker is compatible with any current synthetic methodology and any amino functionalized support. Of course, silica supports would not be compatible with fluoride reagents. It could also be used to advantage for other applications. Because it is **cleaved** under conditions orthogonal to those used during many common reactions, the range of postsynthetic manipulations that can be carried out without **cleavage** from the support is extended significantly.

L7 ANSWER 3 OF 9 BIOSIS COPYRIGHT 2001 BIOLOGICAL ABSTRACTS INC.  
ACCESSION NUMBER: 1996:423174 BIOSIS  
DOCUMENT NUMBER: FFEV199699154230  
TITLE: A new **universal linker** for solid phase **DNA synthesis**.  
AUTHOR(S): Lyttle, Matthew H. (1); Hudson, Derek; Cook, Ronald M.  
CORPORATE SOURCE: (1) Bioscience Technologies Inc., 40 Mark Drive, San Rafael, CA 94903 USA  
SOURCE: Nucleic Acids Research, (1996) Vol. 24, No. 14, pp. 2793-2798.  
ISSN: 0305-1048.

DOCUMENT TYPE: Article  
LANGUAGE: English

AB A method is described as an alternative to the use of nucleoside pre-functionalized supports for **DNA synthesis**. The procedure should allow the generation of 3'-OH terminal moieties of any natural or modified DNA fragment using a single derivatized solid support material. The method utilizes 1-O-(4,4'-dimethoxytrityl)-10-succinyl-3-N-allyloxycarbonylpropane immobilized on amino-propyl CPG followed by subsequent coupling of unit phosphoramidites. Work up is accomplished by removal of the 3-N-allyloxycarbonyl group (Pd(0) at 50 degree C for 15 min) followed by **cleavage** under very mild conditions (aqueous DEAA/NH-3 buffer; pH 10, room temperature) to release the desired product. The mechanism is believed to involve nucleophilic attack of the linker-derived amine group on the 3 phosphate triester, followed by elimination of the desired product. **DNA synthesis** with the new support and with classical nucleotide synthesis supports have been performed, and the products shown to be identical. Further proof of product integrity was given by MALDI mass spectral studies and the efficacy of DNA primers made with the new support in PCR amplification.

L7 ANSWER 4 OF 9 BIOSIS COPYRIGHT 2002 ISI (R)  
ACCESSION NUMBER: 2001:955552 BIOSIS  
THE GENUINE ARTICLE: 4907F

AUTHOR: underivatized solid-phase supports  
 Pei H. T. (Peprint); Yu S. Y.  
 CORPORATE SOURCE: Univ. Calgary, Dept Biochem & Mol Biol, Calgary, AB T2N  
 4N1, Canada (Peprint)  
 COUNTRY OF AUTHOR: Canada  
 SOURCE: TETRAHEDRON LETTERS, (17 DEC 2001) Vol. 42, No. 51, pp.  
 3443-3444.  
 Publisher: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD,  
 LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND.  
 ISSN: 0040-4039.  
 DOCUMENT TYPE: Article; Journal  
 LANGUAGE: English  
 REFERENCE COUNT: 23

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

AB Linker phosphoramidite reagents containing a protected nucleoside with  
 a **cleavable** 3'-ester linkage to either succinic acid, diglycolic  
 acid, or hydroquinone-2,5'-diacetic acid (2-Linker) allow the 3'-terminal  
 nucleoside of an oligonucleotide sequence to be attached to underivatized  
 'Universal' amino or hydroxyl supports. After solid-phase  
**oligonucleotide synthesis**, treatment with NH<sub>4</sub>OH  
**cleaves** the 3'-ester link to the support and produces  
 oligonucleotides with only 3'-OH ends. No changes to existing  
 phosphoramidite synthesis cycles, **cleavage**, or deprotection  
 methods are required. (C) 2001 Published by Elsevier Science Ltd.

I7 ANSWER 5 OF 9 SCISEARCH COPYRIGHT 2002 ISI (R)  
 ACCESSION NUMBER: 99:414699 SCISEARCH

THE GENUINE ARTICLE: UN713  
 TITLE: A UNIVERSAL ALLYL LINKER FOR  
 SOLID-PHASE SYNTHESIS

AUTHOR: CHANG X H; JONES P A (Peprint)  
 CORPORATE SOURCE: RUTGERS STATE UNIV, DEPT CHEM, POB 939, PISCATAWAY, NJ,  
 08855 (Peprint); RUTGERS STATE UNIV, DEPT CHEM,  
 PISCATAWAY, NJ, 08855

COUNTRY OF AUTHOR: USA  
 SOURCE: TETRAHEDRON LETTERS, (07 MAY 1996) Vol. 37, No. 22, pp.  
 3789-3790.  
 ISSN: 0040-4039.

DOCUMENT TYPE: Article; Journal  
 FILE SEGMENT: PHYS; LIFE  
 LANGUAGE: ENGLISH  
 REFERENCE COUNT: 16

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

AB We report synthesis of a **universal allyl linker** for  
 solid-phase synthesis, 2-O-(4,4'-Dimethoxytrityl)-10-undecenoic (3), that  
 has a reactive terminal double bond. Since allyl **cleavage** occurs  
 under conditions orthogonal to those used during the solid-phase  
**synthesis** and deprotection of DNA or RNA fragments, this  
 linker extends the range of post-synthetic manipulations that can be  
 carried out without **cleavage** from the support, and means that  
 this linkage could be used to construct affinity columns. Alternatively,  
 it should be possible also to **cleave** fully protected molecules  
 from the support if so desired. Copyright (C) 1996 Elsevier Science Ltd

I7 ANSWER 6 OF 9 CA COPYRIGHT 2002 ACS  
 ACCESSION NUMBER: 99:359951 CA

TITLE: **Cleavage of universal  
 linkers** from an **oligonucleotide** for  
 solid phase **synthesis** with gaseous  
 nucleophilic amino compound



SOURCE:

PCT Int. Appl., 24 pp.

CODEN: PIXXDL

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002038723	A2	20020516	WO 2001-US43013	20011108
W:	AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UU, UV, UW, UX, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ			

PRIORITY APPLN. INFO.:

US 2000-246713P P 20001109

AB The invention relates to a method for **cleaving** a linker, which attaches an oligonucleotide to a solid phase, from an oligonucleotide to give free oligonucleotide comprising contacting an oligonucleotide-linker-solid phase conjugate with an effective amt. of a gaseous nucleophilic amino compd. under conditions that result in the removal of the linker, thereby yielding the free oligonucleotide. Specifically, the invention relates to a method for **cleavage** of a linker from an oligonucleotide, comprising contacting a conjugate comprising an oligonucleotide; a vicinal diol contg. linker, which is not the 3'-terminal nucleotide; and a solid support with a gaseous nucleophilic compn. under conditions that result in the **cleavage** of an ester linkage between the first constituent of the oligonucleotide (usually the 3'-OH of the 3' terminal nucleotide) and the phosphate of the linker, resulting in the **cleavage** of the oligonucleotide from the linker. In a most preferred embodiment, the oligonucleotide, linker, solid support conjugate will be reacted with hydrated ammonia vapors at about 95.degree. for about 120 min.

L7 ANSWER 7 OF 9 CA COPYRIGHT 2002 ACS

ACCESSION NUMBER:

132:50213 CA

TITLE:

Universal allyl linker for solid-phase nucleic acid synthesis

INVENTOR(S):

Zhang, Xiaohu; Jones, Roger A.

PATENT ASSIGNEE(S):

Rutgers the State University of New Jersey, USA

SOURCE:

U.S., 10 pp.

CODEN: USXXAM

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6004125	A	199912-1	US 1997-052110	1997-05-1
PRIORITY APPLN. INFO.:			US 1996-16948P P 19961506	
OTHER SOURCE(S):			MAFPAT 132:50213	

AB A **universal linker** for solid-phase nucleic acid synthesis that is **cleaved** under conditions orthogonal to those used during the synthesis and deprotection of nucleic acids such as dsDNA. The invention includes compds. of the

more preferably from 1 to about 100 or greater; F2 = alkyl (C1-20) or greater; X = 4,4'-dimethoxytrityl).

L7 ANSWER 8 OF 9 CA COPYRIGHT 2002 ACS

ACCESSION NUMBER: 130:25267 CA

TITLE: Reagents and solid supports for improved synthesis and labeling of polynucleotides

INVENTOR(S): Wang, Edge P.

PATENT ASSIGNEE(S): USA

SOURCE: U.S., 17 pp.

CIDEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY APP. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5340379	A	19931124	US 1986-761711	19961206

OTHER SOURCE(S): MARPAT 130:25267  
GI

F1 F2

F3 I

AB The invention provided methods and compns. for **oligonucleotide synthesis** and labeling using four groups of compds. Group 1: I (Z = ring structure contg. 3-8 C, O, N, and/or S, H; F1 = F2 = label or protecting group attached to ring through a linker arm; F3 = coupling group or solid support attached to ring through a linker arm), Group 2: F4X-CF5F6R7 (II) (F4 = label attached to carbon atom through a functional group; F5 = label or protecting group attached to carbon atom through a linker arm; F6 = coupling group or solid support attached to ring through a linker arm; F7 = H, lower alkyl group; X = NH, O, S), Group 3: F10F9F8C1-L-C2F11F12CF13 (III) (F8 = N, O, S; R9 = coupling group or solid support attached C1 through a linker arm; F10, F11, F12 = H, lower alkyl group; F13 = protecting group; L = linker arm contg. 0-4 C, O, S, H) and Group 4: R14-C6-CR15F16-Y-F17 (IV) (R14 = nucleoside; R15, R16 = H, lower alkyl; F17 = coupling group or solid support attached to the C through a functional group, Y; Y = NH, S, O). The subject compds. have either rigid ring or long linear linker structures and provide enhanced coupling efficiencies over prior art labeling reagents because of lack of stereo hindering and/or provide more convenient and cost-effective syntheses. These novel linkers also contain a base labile structure which provides: (a) binding at 3' end with various solid supports, **cleaving** under mild conditions, and achieving higher yields because of the complete **cleavage** and higher purity because the mild conditions will not bring down the impurities on the solid support. When used in a solid support pre-attached with either a nucleotide for unlabeled **oligonucleotide synthesis**, or a label for 3' end labeled **oligonucleotide synthesis**, or an alternate structure to be as an **universal support**, these **linkers** provide solid supports requiring only mild **cleavage** conditions.

L7 ANSWER 9 OF 9 CA COPYRIGHT 2000 ACS

ACCESSION NUMBER: 107:171375 CA

TITLE: Covalently **linked** complementary oligodeoxynucleotides as **universal** nucleic acid sequencing primer linkers

INVENTOR(S): Van de Sande, Lohan; Kilisch, Bernd W.; Krawetz, Stephen; Schoenwaelder, Karl Heinz

PATENT ASSIGNEE(S): University of Calgary, Can.

SOURCE: Eur. Pat. Appl., 31 pp.

CODEN: EPXXIW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 124126	A1	19870603	EP 1986-115701	19861112
EP 124126	A3	19890301		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
JP 63219380	A1	19880913	JP 1986-276870	19861121
PRIORITY APPLN. INFO.:			US 1985-391900	19851126

AB Sequencing primer linkers (splinkers) for DNA sequencing are characterized by having 2 partially complementary strands, a **cleavable** bridge or site, and a single strand capable of being covalently joined to a DNA strand and capable of serving as a primer for an enzyme that produces a complementary strand from a single-stranded DNA template. In addn., the splinker may be labeled so as to provide a detectable signal. Probes may also be produced. Splinkers were **synthesized** on a **DNA synthesizer** using phosphoramidite chem. and the resulting oligodeoxynucleotides were purified by preparative polyacrylamide electrophoresis. Splinkers were 5' end labeled immediately prior to ligation to DNA fragments for sequencing. In sticky-end ligations, the splinker was added at a ratio of 20:1 in terms of 5' phosphate ends and reacted for 2 h with 1 unit of T4 DNA ligase. The reactions were terminated by extn. with PhOH and the splinker ligated fragments were recovered by EtOH pptn. A 2nd restriction cut was made and the resulting fragments contg. a single splinker at 1 end were sepd. by electrophoresis. Fragments larger than 0.5 kb were electrophoresed and resolved on agarose gels and purified by a freeze-squeeze method (Tautz and Fenz, 1983). The nucleic acids were used directly for dideoxy sequencing.

=> s pires, F2/au or gebeyehu, G2/au

L9 5'5 PIRES, F2/AU OR GEBEYEHU, G2/AU

=> s l9 and (dna or rna or oligonucl? or ribonucl? or deoxyribonucl?) (5n) synth?)  
L10 5'5 L9 AND (DNA OR RNA OR OLIGONUCL? OR RIBONUCL? OR DEOXYRIBONUCL  
?) (5N) SYNTH?)

- dup rem l10

PROCESSING COMPLETED FOR L10

L11 7 DUP REM L10 (8 REPLICATES REMOVED)

=> d his

(FILE 'HOME' ENTERED AT 09:30:09 ON 24 JUN 2002)

FILE 'BIOSIS, MEDLINE, SCISEARCH, CA, CAPLUS' ENTERED AT 09:30:30 ON 24

L2 15 S L1 AND (UNIVERS? LINK?)  
 L3 15 S L2 AND (CLEAV?)  
 L4 5 DUP FEM L3 (10 DUPLICATES REMOVED)  
 L5 38 S L1 AND (UNIVERS? (3N) LINK?)  
 L6 14 DUP FEM L5 (24 DUPLICATES REMOVED)  
 L7 9 S L6 AND CLEAV?  
 L8 1 S L7 AND GAS?  
 L9 555 S PIPES, E?/AU OR GEBEYEHU, G?/AU  
 L10 15 S L9 AND ((DNA OR RNA OR OLIGONUCL? OR FIBONUCL? OR DEOXYRIBON  
 L11 7 DUP FEM L10 (8 DUPLICATES REMOVED)

=> s ((dna or rna or oligonucl? or ribonucl? or deoxyribonucl?) (5n) synth?)  
 L12 434614 ((DNA OR RNA OR OLIGONUCL? OR FIBONUCL? OR DEOXYRIBONUCL?) (5N)  
 SYNTH?)

=> s l12 and (univers? (5n) link?)  
 L13 33 L12 AND (UNIVERS? (5N) LINK?)

=> d his

(FILE 'HOME' ENTERED AT 09:30:09 ON 24 JUN 2002)

FILE 'BIOSIS, MEDLINE, SCISEARCH, CA, CAPLUS' ENTERED AT 09:30:30 ON 24 JUN 2002

L1 390977 S (DNA OR RNA OR OLIGONUCL?) (3N) SYNTH?  
 L2 15 S L1 AND (UNIVERS? LINK?)  
 L3 15 S L2 AND (CLEAV?)  
 L4 5 DUP FEM L3 (10 DUPLICATES REMOVED)  
 L5 38 S L1 AND (UNIVERS? (3N) LINK?)  
 L6 14 DUP FEM L5 (24 DUPLICATES REMOVED)  
 L7 9 S L6 AND CLEAV?  
 L8 1 S L7 AND GAS?  
 L9 555 S PIPES, E?/AU OR GEBEYEHU, G?/AU  
 L10 15 S L9 AND ((DNA OR RNA OR OLIGONUCL? OR RIBONUCL? OR DEOXYRIBON  
 L11 7 DUP FEM L10 (8 DUPLICATES REMOVED)  
 L12 434614 S ((DNA OR RNA OR OLIGONUCL? OR FIBONUCL? OR DEOXYRIBONUCL?) (5  
 L13 38 S L12 AND (UNIVERS? (5N) LINK?)